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SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology; Ar. de Ps.* = *Archives de Psychologie; Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie; Ar. f. sys. Ph.* = *Archiv für systematische Philosophie; Br. J. Ps.* = *The British Journal of Psychology; Int. J. E.* = *International Journal of Ethics; J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods; J. de Psych.* = *Journal de Psychologie; Psych. Bul.* = *Psychological Bulletin; Psych. Rev.* = *Psychological Review; Rev. de Mét.* = *Revue de Métaphysique et de Morale; Rev. Néo-Sc.* = *Revue Néo-Scolastique; Rev. Ph.* = *Revue Philosophique; Rev. de Ph.* = *Revue de Philosophie; R. d. Fil.* = *Rivista di Filosofia e Scienze Affini; V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie; Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik; Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl.: Zeitschrift für Psychologie.* —Other titles are self-explanatory.]

Les jugements hypothétiques. E. GOBLOT. Rev. de Mét., XIX, 2, pp. 199–210.

The three functions of the terms of a judgment are those of subject, class, and quality. Since every quality may serve as the generic denomination of every subject to which it applies, it is always possible to interpret a concept in terms of extension. However, the use of the terms *extension* and *comprehension* simply introduces needless difficulties. The categorical judgment expresses a relation of inherence, whereas the hypothetical judgment expresses one of dependence. There are three types of hypothetical judgments,—those where the subject of the hypothesis and the subject of the consequence are different, those where they are identical, and those where they are indeterminate. The first type may be true either universally or apodictically, being universal in physics and other general sciences, and apodictic in mathematics. The second type, found in such special sciences as, for example, chemistry, sees that the existence of the attribute A, if it be present, demands the presence in the same subject of the attribute B, thus expressing a characteristic of the subject it pertains to. In the third type, the hypothesis and the consequence have the same indeterminate subject. To this form the analytic judgments belong whose conclusion is an incomplete repetition of the hypothesis.

NORBERT WIENER.

La notion moderne de l'intuition et la philosophie des mathematiques. L. BRUNSCHVICG. Rev. de Mét., XIX, 2, pp. 145–176.

The three chief themes of the philosophico-mathematical discussion of the last twenty years have been those of the integer, of the logical class, and of intuition. To the first two there correspond real systems both of the philosophy of science and of metaphysics, whereas the third cannot well be stated definitively, and must not be arbitrarily limited by external tests of coherence.

The very life of religion, art, and metaphysics depends on intuition, and if theories of them fail to give an adequate account of this, they become mere artificialities of abstraction. Intuition consists in a reversal of the habitual train of thought. Since every true science is more than a mere sum of the individual facts it embraces,—since sociology is not merely another name for biology and biology for physics,—it partakes of intuition. It is by this and this alone that we are able to make such inferences as that of the existence of the soul. Intuitionism does not withdraw mathematics into the realm of the transcendental. Originally the term 'intuition' as applied to mathematics meant that its figures could be represented by sense-images. Later it meant that it gave by another route results that could be obtained by empirical methods. The calculus was regarded as based on intuition because the infinitesmal was something *de novo*, qualitatively different from anything previously known. It is true, however, that the intuitionism of Pascal served only as a stepping stone to the completed calculus, first given us by Leibniz. The time when intuition can and does come into play in mathematics is at the critical period when one science is being formed by the study of the limiting cases of another. Such laws as Poncelot's principle of continuity and Hankel's principle of the permanence of formal laws fail to apply universally when concepts of a new sort are introduced. All the different mathematical sciences, once considered as given *à priori*, are now reduced to mere points of view among an infinitude of possibilities. Whereas Hermite looked for demonstrations more formally rigorous, Weierstrauss abhorred abstract formalism. The important moment in mathematical research is when two domains, considered previously to be unrelated, come into contact and give mathematical thought, as when Galois developed his theory of groups or Riemann his theory of contorted surfaces. Intuition can furnish cateorical truth to mathematics, which formal logic cannot do. Intuitionism tends to set right again the reversed trait of thought of formal logic, which is unable to account for its own axioms, but must needs hand them over to intuition. There are two stages in mathematical intuition: naive intuition, which gives us bands for lines and solids for surfaces; and refined intuition, of a perfectly rigorous and precise character, which gives us formulæ, etc. The phase of a demonstration that renders it a unity is, according to Poincaré, intuitively known. Intuition is the organizing principle of deduction, not its antithesis. The as-if character of mathematics and, as a matter of fact, of every science, should be recognized, and they should not be ontologized. Euclidean geometry should be judged on precisely the same plane as the systems of Lobachevski and Riemann. The pragmatic theory of science and mathematics gives them an arbitrary character from which intuitionism escapes. Intuitionism originated as a protest against the artificiality of intellectualism and against the reduction of mathematics to a mere system of formal logic by claiming for it 'universal deduction,' which is of use only as a pedagogic tradition, and which should be eliminated as far as possible.

N. WIENER.

Philosophie als strenge Wissenschaft. EDMUND HUSSERL. Logos, I, 3, pp. 289-341.

Philosophy has never made good its historic claim to the character of a strict science. The critical spirit of the modern period has gone rather toward building up the natural sciences than toward setting forth with scientific precision the nature and limits of philosophical problems. The natural sciences are in possession of bodies of objectively verified knowledge which may be learned and taught, while philosophy is as yet the realm of opinions, views, stand-points. Hegelianism and romanticism have in modern times brought about both a weakening and a falsification of the impulse toward a strictly scientific philosophy. The latter tendency appears in naturalism, a reaction against Hegelianism; the former in the *Weltanschauungs philosophie* which is connected with Hegel's theory of the relative validity of each system of philosophy for its age. Naturalism is a result of the discovery of the connection of objects, according to exact natural laws, in a unitary space-time order. The natural scientist sees everything as nature, in particular, as physical nature. Psychical phenomena are accordingly viewed as secondary to and dependent upon physical phenomena. The positivist brushes aside as scholasticism anything that does not appear as a fact of experience, yet he cuts the ground from beneath his own feet by naturalizing consciousness and striving to reduce all norms and absolute ideals to terms of positive science. Regarding all previous philosophy as unscientific, naturalism wishes to base logic, epistemology, ethics, aesthetics, pedagogy and even metaphysics upon psychology, and finally, to base the sciences of mind upon the physical sciences. But psychology, simply as a science of mental facts, is not adapted to perform a normative function. The solution of certain problems, immanent in natural science, must transcend the point of view of the natural sciences themselves. Taken as merely given, the psycho-physical relation itself remains a riddle. If epistemology is to investigate the relation between being and consciousness, then it can only consider being as consciously perceived, identified, distinguished, etc. Since objects, in order to be objects at all, must be given in consciousness, forms of givenness must be studied. This inquiry is a phenomenology of consciousness, not a natural science of the same. The fundamental error of modern exact psychology is the discarding of direct and pure analysis of consciousness in favor of the indirect inquiry after psycho-physically relevant facts. The few psychologists who recognize the need of this immanent analysis are regarded as scholastics. In spite of all its exact methods, modern psychology begins with certain terms of common usage and utilizes them in all further procedure without at any stage critically examining them. These concepts cannot attain their logical value through the course of heaped-up experiments, but must themselves be subjected to phenomenological analysis. Psychology tries to follow the procedure of natural science in taking experience as simply given. This method is justified in the case of natural science, since it isolates phenomena in order to ascertain their natures, their orderly causal connections, while psychology is the science of the phenomena themselves. In the latter case, the phenomena are, as it were, monads, have no separate natures, but one common nature, and do not constitute a causal order but a flux. There is here necessary a purely immanent investigation, over against the psycho-physical, an analysis, not through mere introspection, but through immediate examination of the character of consciousness. The natural-scientific point of view prevents us from seeing ideas or meaningful content and prevents an inquiry which is essential to a truly scientific psychology as well as to a genuine critique of reason. The psycho-physical analysis deals with the empirical relations between body and mind, but these psycho-physical correlations have little to do with the immediate characters which are discovered by a direct examination of consciousness. With the development of a systematic phenomenology, blinded by no naturalistic predispositions, it will be seen how impossible it is to base epistemology, ethics, pedagogy, etc., upon experimental psychology.

Turning to historicism, we observe that it gives rise to a relativism which entails the same sceptical difficulties as the naturalistic point of view. This historicism, or *Weltanschauungs philosophie*, abandoning the recognition of objective validity, views art, religion, custom, and even science and philosophy, as changing phenomena of human culture, yet in concluding to complete relativity from the flux of systems, it abandons the very test of all systems. This type of philosophy concerns itself with points of view of extended utility, theories of life, etc. which have grown up in the experience of the race. But while the idea of a *Weltanschauung* differs in every age, that of a scientific philosophy is not conditioned by relation to the spirit of an age nor is it limited to the temporal. Every scientifically established evaluation remains a part of the wisdom of all mankind. We must not allow all absolute ideals and norms to be lost in a mass of historical facts. A *Weltanschauungs philosophie* may help us in taking some provisional position, but we must remember that our real object is not a temporary position but a radical philosophical science, working from the ground up through rigid criticism. A *Weltanschauungs philosophie* may impart collective wisdom of an ethical, practical or theoretical sort, but what is needed is an impersonal, scientific method which shall add steadily to an accumulation of valid philosophical knowledge. Such a scientific philosophy will, to be sure, draw upon the historical past, not to piece together systems, but to ascertain what history has to offer toward the solution of definite problems.

J. R. TUTTLE.

Notes sur la croissance et la différenciation. L. WEBER. Rev. de Mét., XIX, 1, pp. 34–63.

The study of embryology has failed to give us the desired clue to the how and wherefore of growth and differentiation. There has been a tendency to overexplain unjustifiably the facts and processes of development on account of the real scarcity of significant facts. The size of a primitive cell is strictly limited by the fact that whereas the volume to be nourished increases as the cube of the radius, the absorbing surface increases only as the square of the radius. Cells set apart for especial purposes or having a complicated nutritive organization may form exceptions to this rule. Nucleus and cytoplasm are necessary the one for the other, although their quantitative relation may vary within wide limits. A cell may consist of one or several energids, *i. e.*, nuclei with their attendant cytoplasm. The concept of the energid is a very useful one. Polynuclear cells often reach very large dimensions. The energid, however, is very difficult to define in the schizophytes on account of their diffuse nucleus. In certain cases of reproduction where there is a tendency for the daughter cell to become smaller than the parent cell, after a certain number of generations there is some change in the life-cycle that restores the cell to its primitive size. The size of normal cells varies between an unknown lower limit and about a cubic millimeter. Surface-tension may have its effect in limiting the size of the cell. This may have caused sporulation. The size of cells may be limited by the process of mitosis, since it may be impossible for an overlarge nucleus to undergo it.

NORBERT WIENER.

La théorie de concepts chez M. Bergson et M. James. RENÉ JEANNIÈRE. Rev. de Ph., X, 12, pp. 578–598.

In an article in last year's January number of the *Journal of Philosophy, Psychology, and Scientific Methods*, James indicated a parallelism between Bradley and Bergson in regard to the rationalistic doctrine of the fragmentary nature of sense experience and of the unifying function of concepts. He held that Bergson reverses the Kantian theory, makes immediate sense experience a continuum, and gives the synthetic concepts only a relative and at best a partially representative value. This article gives rise to two questions: (1) Did James faithfully represent the thought of Bergson; and (2) are his reasons for approving of these thoughts convincing? In later numbers of the same periodical, Montague and Pitkin, of Columbia University, and Kallen, of Harvard University and a pupil of James', have expressed their opinions about the adequacy of James' representaton of Bergson's views. Montague reserves judgment as to whether Bergson has been correctly interpreted by James and contents himself with criticizing the view represented by James as being an example of a sort of philosophical stimulus error. 'Thought' and 'thought about' must not be confused, nor can a static thought ever disrupt a non-static reality process. Pitkin is the first to question the James' version of Bergson. He emphasises the fact that Bergson insisted on the theoretical and not practical intelligibility of concepts. They do not veil our experience nor are they 'cut out' of our experience: they are our experience itself. Kallen 'denies that James was an inaccurate reporter of Bergson, and shows by parallel citations that Pitkin has done James an injustice. Concepts are taken by Bergson in the light of practical but not theoretical service. Reality is a flux and concepts of thought are immobile cross sections of that flux, taken under the illusion that these somehow mean reality. Finally, in the July number of the same *Journal*, Bergson himself clearly indicates that James did not misrepresent, but indeed clarified the thought of Bergson, who incidentally also clears himself of minor charges brought forth by Pitkin. All this is in answer to the first question— the second question remains to be faced. In reviewing James' *A Pluralistic Universe*, Montague advances a number of objections to James' faith in the Bergsonian doctrines. The realist has no difficulty with the dilemna, how is it possible to reconcile the conviction of common sense that the same things can be at once distributively and collectively known, with the logical conviction that the experience of things as parts can not be identical with the experience of things as a whole. For the observer the thing *is* what it is *perceived as*, and the various experienced qualities are aspects that can therefore be coexistent in time and space. It is not 'fair play' to meet the situation by saying that it is logically insoluble. In the choice between acosmism and irrationalism, James has adopted the latter, but the rationalism that is thus discarded was of the poor variety which ascribes to the activity of thought a constitutive or reconstitutive function toward its objects. To these and other objections James briefly answers in a later number, and this answer in turn elicits a short rejoinder with the result that the situation is left almost identical with the former.

CHRISTIAN A. RUCKMICH.

Die phänomenologische Naturanschauung und der philosophische Realismus. H. KLEINPETER. V. f. w. Ph., XXXIV, 1, pp. 46–67.

The facts of physical science have been discussed in the speech of daily life in a very free and easy manner. Their common interpretation no longer satisfies the modern demands for precision and exactness of thought. Many unsupported preconceived notions have crept into science because it has formed judgments before reason has accepted the demonstration as complete. Stumpf and Külpe have attempted to treat physics from the philosophical view-point and have contributed much to the subject. It does not appear, however, that Stumpf has successfully demonstrated the assertion that we must postulate processes beyond consciousness, if mention is to be made at all of law. We can renounce, on every hypothesis, that which happens outside of consciousness, without being obliged to neglect the regular processes which our world of sensation exhibits. Where is the door which leads out from the world of consciousness? Even a Platonic ideal world must first receive significance through its relation to the world of sensation; without this, it would be an idle toy or would have at best only a purely mathematical interest. Furthermore, ideas are not mere representations—which is still to be read in many text-books on logic—but they are symbols for mental activities which only by their harmonious association in a group can have a representation as the result.

The phenomenological laws of physics are those which merely describe facts without reference to any hypothesis, such as the principle of the conservation of energy or in short any law which makes use merely of the aid of mathematics. Now there are in physics laws of another sort also, such, namely, as are expressed in the language of a definite hypothesis. Mach attempted the work of tracing back all these physical laws to the purely phenomenological, but he was only in a measure successful. But the work is possible and it will ultimately be performed. Such a discrepancy as exists is under the conditions of modern science no longer necessary, and it was to indicate this fact that the present article was written. The mode of viewing things as phenomena does not debar a philosophy or metaphysics, just as it does not prevent the investigator of nature from availing himself of a working hypothesis for his purpose. It is the duty of an exact science, however, to become free from all assumptions and to carefully discriminate between observed facts and the conclusions of theory. Although we know that we cannot peer into the nature of things and that we can but observe what displays itself before our eyes, yet at least the seeker after truth can and must distinguish clearly the hypothetical in physics from the certain.

GEORGE T. COLMAN.

Miracles and History. WILLIAM HALLOCK JOHNSON. Princeton Theol. Rev., VIII, 4, pp. 529-559.

Back of the questions of the credibility or the possibility of miracles lies the more important question as to their historicity. Objections to miracle are reducible to the scientific and the religious. But the deeper study of science is not only not averse to spiritual realities, but, by its insistence on the unity of the physical universe, gives to miracles, if admitted at all, universal significance and a truer dignity. In modern religious thought, on the contrary, depreciation of miracle is prominent. Some historians, as Langlois and Seignobus, hand over the subject to metaphysics and physical science, but this is to abandon historical evidence and do violence to historical method. The attitude of the historian, as correctly expressed by Schmiedel, is to accept the miraculous explanation only when all others have failed, and then, only upon the strength of unexceptional testimony. The prime requisite of approach is an open mind, and, at least, the admission of the possibility of the theistic postulate. The most convincing testimony in support of New Testament miracles is furnished, in the Acts of the Apostles, by Luke, whose training and self-restraint, and whose accuracy in regard to geographical details, entitle him to a hearing. Harnack, who explains many recorded miracles in the Acts by the theory of coincidence, has two objections to Luke's testimony: (1) Luke was superstitious—a Christian Scientist; (2) In the Acts he has altered his account of the Resurrection and Ascension at the end of his gospel in favor of a secondary tradition. But the first objection does not invalidate the testimony of a witness, and the second may be explained by the fact that Luke, in his gospel, wished only to give prominence to the appearance of the risen Christ, without burdening his narrative or obscuring this central fact with details. The demand for unexceptional testimony is also met by the Apostle Paul, who, although he gives no detailed description of his miracles, yet, by his own experience, his own words and extended labors, furnishes a testimony for miracles which may not be set aside. Finally, the Gospels, both the Synoptics and John, contain evidence, though second hand, which is admittedly strong. The critical study of the gospels, aided by the progress of modern psychology and the rise of healing cults, have made for the trustworthiness of the healing ministry, if not for its miraculous nature. Two queries now arise: Can the psychology of suggestion adequately explain the healing ministry of Jesus? And can this be separated from the other miracles of the Gospels? The influence of mind over body cannot be doubted, and answer to prayer, although mysterious, may not be attributed to miracle in the strict sense. But the practitioners of suggestion, *e. g.*, the leaders of the Emmanuel Movement, and Christian Scientists, confess to cures only in the field of functional neuroses and non-organic diseases, while Jesus cured all manner of sickness and disease among the people. Further, in the case of demoniacal possession, if Jesus' lack of knowledge forbade correct diagnosis, the only explanation of dispossession is miracle. This discussion of the first query furnishes a negative answer to the second. The works of Jesus are inseparable from his personality, and if this is unique—if the figure drawn of him in the gospels, showing him to have control over human life and destiny is correct, as it is consistent, then the distinction between his power over disease, and that over nature and death loses its significance, and has little warrant in science or historical criticism.

MARK E. PENNEY.

The Meaning of Good and Evil. J. S. MACKENZIE. Int. J. E., XXI, 3, pp. 251–269.

Is good an ultimate, indefinable datum, or is it relative to something else? This is a question long-vexed, and one as yet unsolved. Was Eve's action in eating the fruit evil? And, if so, Why? Was it because it was contrary to the divine command? If so, why was such disobedience evil? Was it because such action led to punishment, or because the attitude of obedience is good, or because divine commands indicate what is intrinsically good? In any one of these cases we arrive ultimately at something considered intrinsically good. Kant held the 'good will' to be the only intrinsically good thing. In this we find: (1) an attitude, which we call rational; (2) an act, which we describe as choosing; (3) an end, which is aimed at when we choose rationally. The act of choice seems an ultimate in all conscious life, and choice may be irrational in its beginnings. The difficulty is with the end, which is thought intrinsically good. A world in which rational choice had no real significance would be a world in which intrinsic good had no real significance. Good would then be an object which conscious beings choose, and would vary with the point of view of the beings who choose. But, if there be such an attitude as that of rational choice, there is also such a thing as intrinsic good, even though no conscious being chooses such an attitude. The fact that we are able to discriminate degrees of approximation to a rational attitude indicates that such an attitude is an intelligible ideal. From the standpoint of that ideal rationality would be chosen, and hence would be intrinsically good. So we can say not only that good is the object of rational choice, but also that rationality is a good. If good is unintelligible apart from rational choice, then in choosing good we must choose rational choice itself. So that Kant's 'good will'—the attitude of rational choice—is an unqualified good. But to stop here gives a hopeless circle. The choice we choose must be distinguished from self, that is, it must be an intelligible universe. Pleasure is involved in rational choice, since the choosing of that choice pleases us. But a pleasure is ultimately good only when it is the subjective aspect of rational choice. The presence of what we experience as evil,—*e. g.*, pain or a perverse choice,—has been thought to show that the universe is not completely good. But choice implies moral alternatives. A world in which there was no evil would not be a completely good world. Optimism holds that just enough evil exists to bring out the full content of the good. Pessimism holds that just enough good exists to bring out the full content of evil. One is bright through the strength of its darkness, the other is dark through the strength of its light. A world 'Beyond Good and Evil' would be neither dark nor bright; it would be invisible.

J. REESE LIN.

The Question of Moral Obligation. RALPH BARTON PERRY. Int. J. E., XXI, 3, pp. 282–298.

The 'feeling of moral obligation' is distinguished from other moral sentiments in that it is a species of self-consciousness. It is a sentiment of an agent with respect to *his own* action. We here have to do with a sentimental judgment, or a passionate experience which when cooled precipitates a judgment. We may paraphrase the feeling of moral obligation as 'the feeling that I ought or ought not to perform this action.' We may fairly ask just *how one feels, when one feels that one ought or ought not.* Here is a complex emotion which may be analyzed and finally brought under those laws of consciousness which psychology discovers. Or we may ask *how one comes to feel that one ought or ought not.* Such an inquiry eventually brings us not only to psychological but to biological and sociological principles. Or we may ask *what acts men have felt that they ought or ought not to perform.* This inquiry is affiliated in methods and laws with anthropology, comparative religion, and history. And we must attend to the simple question, '*What acts* ought I to perform?' It is claimed that this last question may be answered in terms of the others, that is, *what I ought to perform is what I feel that I ought to perform.* To justify this it is argued that the feeling of obligation reflects the will of God, or the lasting interests of mankind, or it is held that the obligatory act is *any act, provided only that it be felt about the agent himself in a specific manner.* This is a question of fact. Does not one feel in a specific way *that* an act is obligatory? If so, the acts so judged, *when truly so judged,* have a common character other than feeling. If one seeks an end and is confronted with a situation, then there is *a right act in the premises*, regardless of any feeling toward it or opinion concerning it. It is 'hypothetical,' as Kant would say, but valid. Moral laws define acts as vicious or virtuous according to their bearing on the field of interests which they affect. Typical moral experiences contain both a judicial and an affective exponent. This complexity is reduced to a pseudo-simplicity by such terms as 'appreciation' and 'evaluation,' or by such notions as Westermarck's 'emotions of approval.' But this is simply to exploit the equivocation which their dual nature makes possible. Most moralists are now agreed that goodness is relative to desire. This does not mean that the good is what is judged to be good. Value lies in the *desire relation*, which is prior to all judgment about it. There is a logical or strictly ethical question concerning the meaning of moral obligation which cannot be answered by any account of the genesis, history, or psychological structure of the sentiment. And it is impossible to make a rational appeal to anything but reason. Arguments do not compel feeling or action. An agent is always free to ignore the truth.

J. REESE LIN.

Étude expérimentale sur l'association de ressemblance. M. FOUCAULT. Ar. de Ps., 40, pp. 338–360.

Two problems arise in connection with association by similarity: (1) May similarity be reduced to contiguity or *vice versa?* (2) Is similarity an associative force? Peter's recent results show that similarity is an associative force and that there are individual differences in the degree to which it is exercised. The present study is based on two sets of experiments. In the first, numbers were used, these being arranged in couplets according to four types, of which three showed similarity. There were eight couplets under each type and these were distributed over four series, two to each series in all possible orders. The method consisted of presenting successively to the observers the couplets of a single series. The degree of the impression was then tested; the first members of the series were given in succession and the observers attempted to recall the second members. This was repeated until the entire series had been impressed. In the second set of experiments nonsense words were used. Here, the method was similar to that of the first set; but composite and homogeneous series were used and the exposures regulated by a special apparatus. The experiments show (1) that resemblance between thought has no associative value; (2) that contiguity alone forms associative connections; (3) that similarity can act only in a secondary and indirect manner. There is the possible objection that association by similarity may be brought about through physiological intermediaries. The reply would be that we are here dealing with the appearance of images in consciousness, and that association is insufficient to explain such facts. Associative connections are only one of the many forces which determine the appearance of images.

MABEL E. GOUDGE.

Consciousness in Psychology and Philosophy. G. A. TAWNEY. J. of Ph., Psy., and Sci. Meth., VIII, 8, pp. 197–203.

The Greeks and Romans had no exact equivalent for our word consciousness. Modern philosophy and psychology recognize two meanings of the word: (1) consciousness is essentially self-consciousness; (2) consciousness is the various processes that constitute the mental life. Locke, representing the early English psychologists, identifies all states of consciousness with the states of self-consciousness. Again, from the empirical standpoint, mind is the same thing as consciousness,—it is the place where mental processes go on. This is the 'mind' of much modern idealism and modern philosophy. For the functional psychologist, mind is either a nervous system or else an individual and independent thing dwelling in the body and sustaining relations of contrast and exclusion toward all other things. Many students of philosophy and psychology to-day are looking for a substitute for the conception of mind. Professor Woodbridge holds that consciousness is simply an order of relations of implication and suggestion. Certain facts of experience, however, indicate that consciousness may more properly be regarded as the continuum of immediate value. As treated by psychologists consciousness is an individual affair, whereas, a man is a mere individual neither in his thinking, his emotions, nor his will. Psychology does not sufficiently recognize a man's dependence upon his social environment for his thought and emotions. We need a psychology of human conduct to supplant the psychology of consciousness.

MABEL E. GOUDGE.

Versuche über Vorstellungstypen. ALBERT FEUCHTWANGER. Z. f. Psych., 58, 3 n. 4, pp. 161–199.

The study is an investigation of types of imagery by the method of direct introspection elaborated by Marbe. Seven different kinds of stimuli were used, including nonsense syllables, words and phrases, simple questions, colored objects, and pictures. Tactual-motor images, words irrespective of the presence of images or sensations, and a consciousness of inner speech without at the same time any images of sensations were reported by the observers. Without exception auditory images occurred less frequently than either inner speech or visual images. The auditory images are for the most part verbal, with few concrete ideas. The visual-verbal type sees the spoken syllables, words, and sentences clearly while listening to and answering questions, but not clearly in loud and low reading and generally not in the perception of objects and pictures. All the observers report more verbal-motor images in recall than during the perception of the syllables, words, and sentences. Few visual images appeared with the nonsense syllables, more with the words, and the largest number with the sentences; on the other hand, more kinesthetic-verbal reactions occurrred with the nonsense syllables than in the case of sentences. Changing the direction of attention considerably altered the reaction time. The visual type of observer could control visual images more easily and quickly than could the kinesthetic-auditory type, but the latter could call up auditory and tactual images with much greater ease. There appears to be a correlation between imagery types as determined by the direct and the indirect methods. The modified Eckhardt method showed that the reproduction of memorized numbers was more interfered with in the auditory-kinesthetic observers by the distraction of counting, while the visualizers are more disturbed by the low reading. The method of Kraepelin gives a low correlation with the results of the direct method and showed the same differences in the number of auditory-verbal, kinesthetic-verbal, and visual reactions.

A. S. EDWARDS.

L'école de Wurtzbourg et la méthode d'introspection expérimentale. J. B. SAUZE. Rev. de Ph., XI, 3, pp. 225–251.

From the time of Ribot and Richet, there has been much experimental study in the psychological laboratory. The methods have been those of physiology, neurology, anthropology, hypnotism, and phrenology, rather than those of psychology. In the last quarter of the 19th century the experimental psychology developed at Leipzig has combined the methods of psychology with those of physiology; and, although there has been little work done there on the higher mental processes, nevertheless the foundations for psychological research have been placed on firm ground. In the *Grundriss der Psychologie* (1893) Külpe maintained that the introspective method, in spite of its insufficiencies, was the fundamental method of psychology and the only one possible of direct application. A year later he proposed the following program: to analyze the processes and states of mind more precisely and specifically; to obtain a full and separate account of each phenomenon; to settle the meanings of the terms in common use, in order to overcome the existing ambiguities; to individualize methods, so as to make all questions strictly to the point; to utilize with great care the results of other workers; to exercise discrimination in the choice of subjects and of experimenters; to unify as far as possible the various methods. This program has been carried out with considerable success. Objections to introspection are fragmentariness of memory and dangers of suggestion; it complicates difficulties already existing and cannot expect to catch the obscure and fleeting phenomena of consciousness. But the objections are not fatal. Even the obscure and fleeting processes have the attributes of extension and intensity. Introspection is supplemented by the statistical method. Even so, however, it clears the way only in adult psychology; in other fields, such as child psychology, different methods must be used.

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The Place of Movement in Consciousness. W. B. PILLSBURY, Psych. Rev., XVIII, 2, pp. 83–99.

With the exception of the affective processes, the clearness of the attentive consciousness, and the subordinate motor processes, there is nothing in mind that has not been explained in terms of movement. The explanations fall into three groups: those of structures, of functions, and of the higher intellectual processes that lie on the border between structure and function. The advocates of the motor theory seem now to be attempting to revamp the innervation sense, reinstating it in its essentials, though without any new proof. In several of the theories, the qualities that are ascribed to consciousness as a result of movement are considered as having their origin in the cortical motor apparatus rather than in the sensory ends in the body of the muscles. The statements are justified only from theoretical needs. Stated in the current form, the theory is obviously very difficult to disprove and even harder to prove on the basis of definite evidence. So far as it is possible to know the facts, the only structural contributions of movement to consciousness are the kinesthetic sensations. The motor theory is right in emphasizing the part played by kinesthetic qualities in every domain. They constitute an important part of every perception process, color memory, and give tone to all of the intellectual operations; on the active side, they constitute the goal of all thought, and play an important part in the organization of experiences into systems of knowledge, and in making thought possible. Perhaps most important of all, the motor theory has rendered impossible the older form of explanation in which mental states were regarded as entities that were independent of all other mental activities present as well as past. Interrelation, context, attitude are now made the basis of all forms of mental explanation, rather than elements or entities. On the other hand, the motor theory claims too much. Not all qualities of perception or memory are of motor origin, and what is of motor origin can be ascribed to the motor cortex only indirectly through the kinesthetic sensations. No meaning, furthermore, can be given to the assertion that selection of conscious processes is in terms of movement. The attitude of the moment determines movement, not movement the character of the attitude. Again, the higher mental functions, although they involve movement, cannot be explained in terms of movement alone. Movements in and of themselves have no meaning, are not immediately recognized nor understood. Movements, too, acquire meaning, are recognized or judged, only as they may be referred to other mental states and finally to a systematized knowledge. To identify the motor theory with a functional psychology is to destroy the essence of the functional view of life and reduce functions to new and inadequate stuctures. Finally, movement cannot be regarded as the cause of any of the antecedent conscious states. The motor theory is one of the most valuable movements in modern psychology but it should take its right place. A complete explanation of any phase of consciousness must include both sensation and movement, recognizing their reaction one upon the other, as well as the reaction of one sensorimotor circuit upon others. Above all, there must be constant reference to the ever growing system of knowledge that develops out of sensation and is tested by movement, but which alone gives meaning to sensation and rational direction to movement.

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